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Lessert's rainbow spider, *Stenaelurillus lesserti* Reimoser (Araneae: Salticidae: Aelurillina) from new localities in South India

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Abstract — Lessert's rainbow spider, *Stenaelurillus lesserti* Reimoser 1934 is recorded from new localities in South India. The species is redescribed and illustrated in detail along with notes on natural history. A map showing the updated distributional range of the species is provided.

Key words — Jumping spider, new localities, India, *Stenaelurillus lesserti*

Introduction

The genus *Stenaelurillus* Simon 1886 is represented by 36 species worldwide. Seven species are known from India — *S. albus* Sebastian, Sankaran, Malamel & Joseph 2015, *S. digitus* Prajapati, Murthappa, Sankaran & Sebastian 2016, *S. gabrieli* Prajapati, Murthappa, Sankaran & Sebastian 2016, *S. jagannathae* Das, Malik & Vidhel 2015, *S. lesserti* Reimoser 1934, *S. metallicus* Caleb & Mathai 2016, and *S. sarojinae* Caleb & Mathai 2014 (Prószyński 2016; World Spider Catalog 2016). *Stenaelurillus* is presently placed under the subfamily Salticinae, tribe Aelurillini and subtribe Aelurillina (Maddison 2015).

Due to lacunae of working experts and faunal explorations, *Stenaelurillus* in India was represented by only one species (*S. lesserti*) for about 80 years until the remaining six Indian species were recently added in past 2 years. Wesołowska (2014) reviewed the Asian species of the genus *Stenaelurillus* and redescribed the type of *S. lesserti*. The species was also redescribed by Sebastian et al. (2015) on the basis of the specimens collected from Kerala. We now provide a detailed redescription of this species using the collections from new locations (Madras Christian College campus, Chennai, National Centre for Biological Sciences campus, Bangalore and Sivagiri Reserve Forest) further extending its range northward from the previous known distributional records. Digital macro color photos of the live spiders are presented here for the first time.

Materials and methods

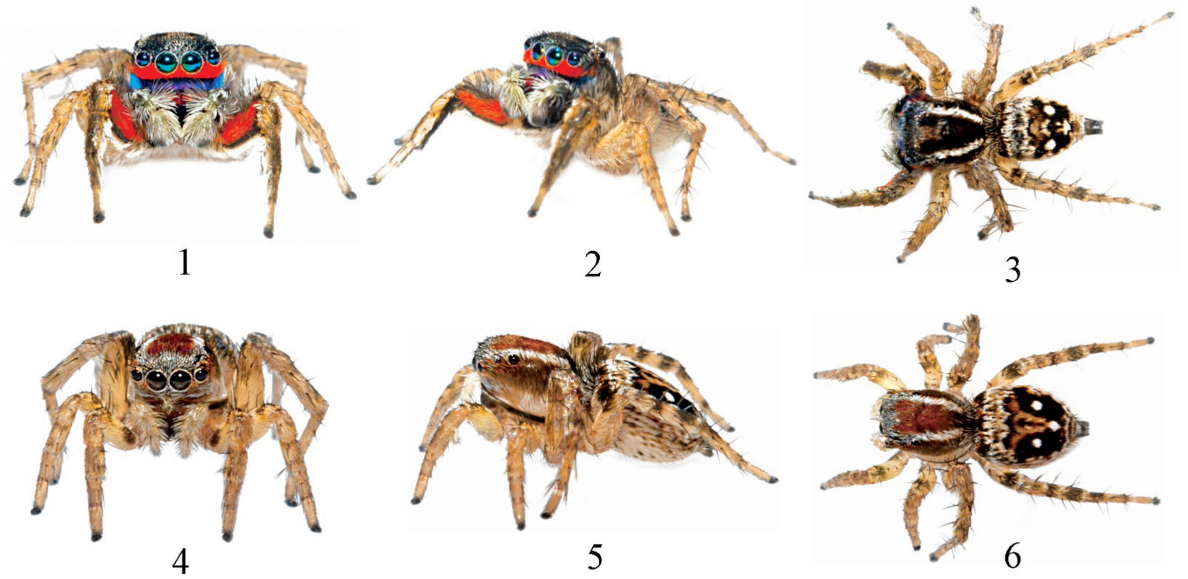
Specimens were photographed using Canon 60D, 60 mm lens with Canon Speedlite 430 EX II external flash. Specimens were preserved in 70% alcohol and later examined using a stereoscopic microscope. Male palps were detached and studied. Female epigynes were excised using fine surgical scalpel and macerated in 10% KOH. Descriptive style follows Caleb & Mathai (2016). Specimens are deposited in National Centre for Biological Sciences (NCBS), Bangalore, Karnataka and Entomology Research Institute (ERI), Loyola College, Chennai. All measurements are in millimeters.

Abbreviations used: ALE - anterior lateral eye, AME — anterior median eye, AME-AME — mutual distance between eyes, CD — copulatory ducts, CO — copulatory opening, d — dorsal, E — embolus, FD — fertilization ducts, Fm — femur, Mt — metatarsus, PLE — posterior lateral eye, PME — posterior median eye, pr — prolateral spines, Pt — patella, rt — retrolateral spines, RTA — retrolateral tibial apophysis, S — spermathecae, T — tegulum, TA — tegular apophysis, Tb — tibia, v — ventral.

Taxonomy

Genus *Stenaelurillus* Simon 1886
Stenaelurillus lesserti Reimoser 1934
(Figs. 1–12)

Specimens examined. Madras Christian College campus, Tambaram, Tamil Nadu, India, 1♂ (NCBS-AR118) 26.vi.2013 (12°55′6.6576″N, 80°7'12.0216″E, Alt 32 m); 1♂ (NCBS-AR119) 21.vi.2013 (12°55'3.5724″N, 80°7′22.2924″E, Alt 32 m); 1♂ (NCBS-AR120) 18.vii.2013 (12°55′12.8244″N, 80°7′24.528″E, Alt 32 m); 1♂ (NCBS-AR121) 02.vii.2013 (same location), 1♀ (NCBS-AR122) 05.ix.2013 (same location), all leg. J. Caleb; 2♀ (NCBS-AR123) 31.i.2014 (12°55′3.5724″N, 80°7′22.2924″E, Alt 32 m) leg. Karthy; Sivagiri Reserve Forest, Tirunelveli, Tamil Nadu, India, 1♂ (ERI-SPI054), 30.viii.2015 (09°24′44.1″N,



Figs. 1–6. *Stenaelurillus lesserti* Reimoser. 1, male, frontal view; 2, same, frontal-lateral view; 3, same, dorsal view; 4, female, frontal view; 5, same, lateral view; 6, same, dorsal view.

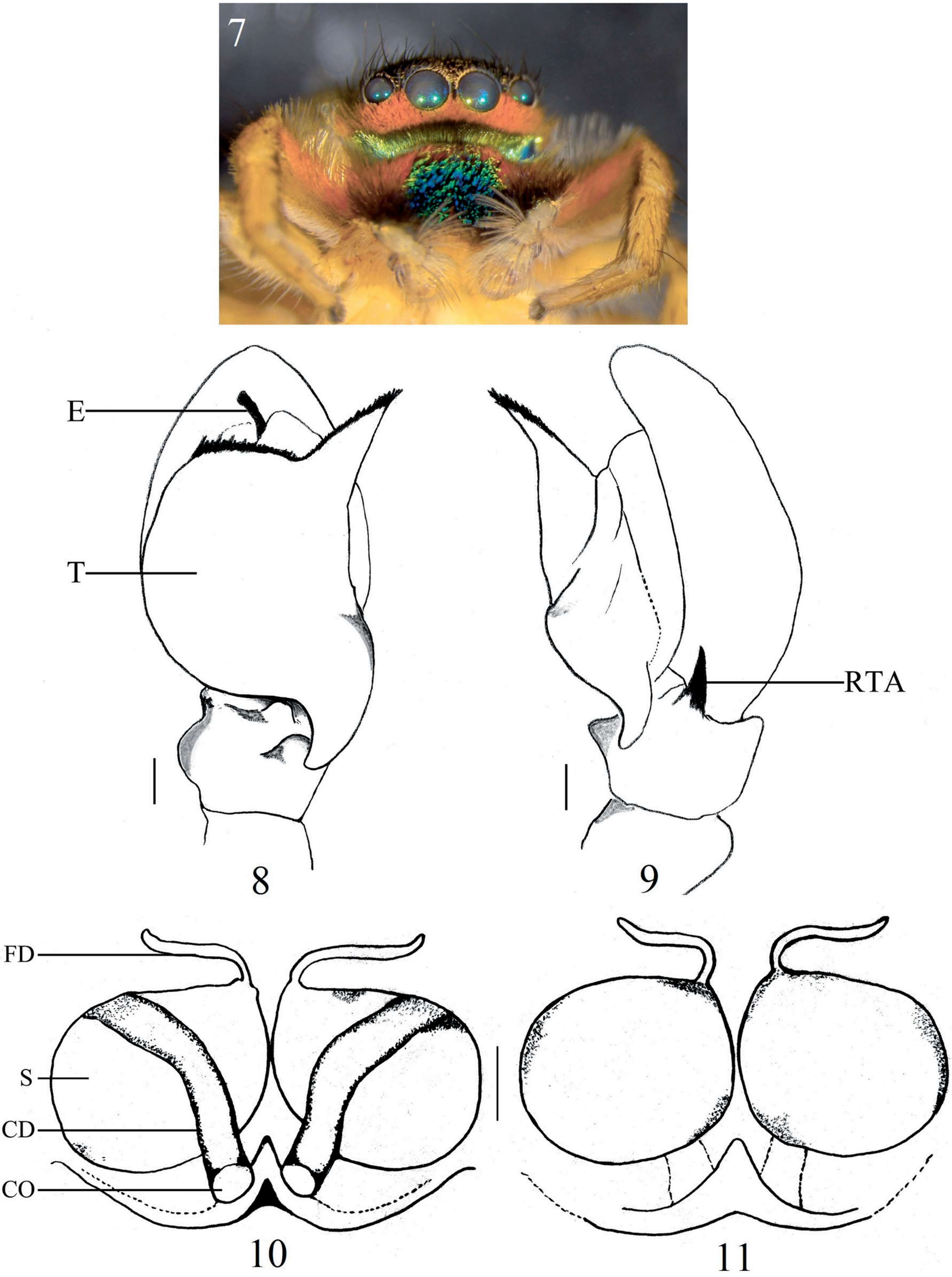
77°20′55.4″E, Alt 922 m) leg. Nagoor Meerasa Mohammed; National Centre for Biological Sciences campus, Bangalore, Karnataka, India, 1♂, 1♀ (NCBS-AU136, 137), 11.vi.2016 (13°4′21.4098″N, 77°34′44.3994″E, Alt 933 m) leg. Rajesh Sanap & Girish Kumar.

Diagnosis. Males can be readily distinguished from other *Stenaelurillus* species by the presence of a transverse stripe of dense black hairs with metallic sheen on the clypeus (Fig. 1); palp with robust, thick and long anterior tegular apophysis, lined finely by stiff ciliated structures on the bulb anteriorly (Fig. 7). Females differ from other members in having closely placed copulatory openings, aligned posteriorly on the epigynal plate; large and globular spermathecae (Figs. 9–10) (Wesołowska 2014).

Description. *Male*. Total length: 4.05, carapace 2.06 long, 1.50 wide. Eye measurements: AME 0.31, ALE 0.21, PME 0.09, PLE 0.19, AME-AME 0.04; AME-ALE 0.07; PME-PME 1.14; PME-PLE 0.22. Leg measurements: I 3.26 (1.04, 0.48, 0.68, 0.48, 0.58); II 3.03 (1.04, 0.41, 0.60, 0.46, 0.53); III 4.39 (1.48, 0.51, 0.97, 0.92, 0.51); IV 4.28 (1.36, 0.43, 0.94, 1.12, 0.43). Spine formula Leg I: Fm d 0-1-1-5; Pt pr 0-1-0; Tb pr 1-2, v 1-1-2ap; Mt pr 1-1, rt 0-1, v 2-2ap; Leg II: Fm d 0-1-1-5, rt 0-1-0; Pt pr and rt 0-1-0; Tb d 0-1, pr 1-1, rt 0-1-0, v 1-1-2; Mt pr 1-1, rt 1-1, v 2-2ap; Leg III: Fm d 0-1-1-5, pr 0-1-0; Pt pr and rt 0-1-0; Tb d 1-0-2, pr 1-1, rt 1-0-1, v 1-1-2; Mt d 2-1-2, pr 1-1, rt 1-1, v 1-2ap; Leg IV: Fm d 0-1-1-5, pr 0-1-0; Pt pr and rt 0-1-0; Tb d 1-0-2, pr 1-2, rt 1-1, v 1-2; Mt d 1-2-2, pr 1-1, rt 0-1, v 0-2-2ap. Abdomen 1.99 long, 1.21 wide.

Carapace black, interspersed with reddish brown hairs anteriorly; pair of longitudinal white stripes begin near the posterior eyes and extend to the rear; white hairs form broad patches along lateral edges of the carapace (Fig. 3). Anterior eyes margined by white orbital setae. Clypeus in live specimens covered with bright red setae sandwiched by a transverse stripe of fine black hairs making diverse hues ranging from light blue to purple (Fig. 1); in preserved specimens the bright red clypeus fades into dull orange color and the transverse bluish stripe is observed in smaragdine hue. Chelicerae covered dorsally with black hairs with mixture of smaragdine and azure hues (Fig. 7). Labium and maxillae blackish, apically paler; sternum pale yellowish. Legs short and stout, yellowish brown dorsally; femur I covered by bright red setae prolaterally (Figs. 1–2). Abdomen oval, covered with long black hairy setae projecting forward anteriorly; dorsal pattern laid on predominant black background with two distinct white spots and another spot further posteriorly along the mid-dorsal line; broad transverse rows of white hairs present anteriorly followed by an arched orange stripe converging toward the median spot posteriorly; these arches are joined by chevron shaped arches mid-dorsally (Fig. 3). Spinnerets blackish, moderately long and hairy. Palp covered with yellow hairs dorsally; stiff, black cilia like structures clothe the rim along the anterior edge of tegulum consisting of a robust anterior tegular apophysis; embolus thick; RTA strong, slightly bent towards the ventrally (Figs. 7–8); palpal femur with a dorsal fringe of long black hairs.

Female. Total length: 4.73, carapace: 2.45 long, 1.87 wide. Eye measurements: AME 0.36, ALE 0.20, PME 0.09, PLE 0.19, AME-AME 0.04; AME-ALE 0.07; PME-PME 1.39; PME-PLE 0.15. Leg measurements: I 3.62 (1.21, 0.63, 0.65, 0.55, 0.58); II 3.43 (1.16, 0.60, 0.68, 0.41, 0.58); III 6.06 (1.84, 0.72, 1.57, 1.28, 0.65); IV 5.65 (1.60, 0.68, 1.21, 1.48, 0.68). Spine formula Leg I: Fm d 0-1-1-5; Pt pr 0-1-0; Tb pr 1-2, v 1-1-2ap; Mt pr 1-1, rt 0-1, v 2-2ap; Leg II: Fm d 0-1-1-5, rt 0-1-0; Pt pr and rt 0-1-0; Tb, pr 1-1, v 1-1-2; Mt d 1-2, pr 0-1, v 2-1ap; Leg III: Fm d 0-1-1-5, pr



Figs. 7–11. *Stenaelurillus lesserti* Reimoser. 7, male, frontal view of preserved specimen; 8, male palp, ventral view; 9, same, retrolateral view; 10, female epigyne, ventral view; 11, female internal genitalia, dorsal view. Scales = 0.1 mm.

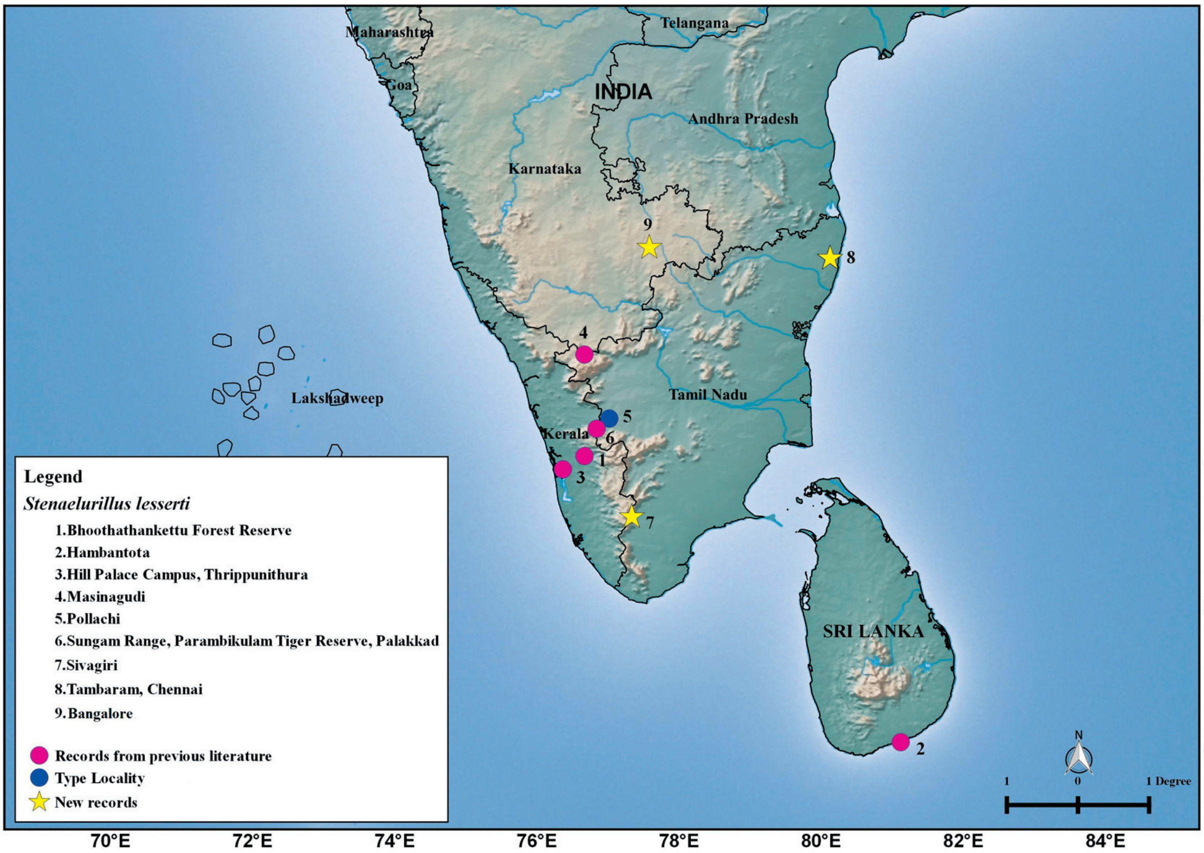


Fig. 12. Distributional records of *Stenaelurillus lesserti* Reimoser 1934.

0-1-0; Pt pr and rt 0-1-0; Tb d 1-2-2, pr 1-1, rt 1-1, v 0-1-2ap; Mt d 2-1-2, pr 1-1, rt 1-1, v 2-2ap; Leg IV: Fm d 0-1-1-4; Pt pr and rt 0-1-0; Tb d 1-2-2, pr 1-2, rt 1-1, v 1-2ap; Mt d 2-1-2, pr 1-1, rt 1-1, v 1-1-2ap. Abdomen: 2.28 long, 1.68 wide.

Coloration pattern as in male but differs in the following: clypeus covered by narrow transverse white stripes (Fig. 4). Femur I with dark proximal oval patch prolaterally. Posterior tip of abdomen covered by pale yellow hairs; white setae on the dorsum of the spinnerets (Fig. 6). Epigyne set on a highly sclerotized plate with copulatory openings present posteriorly, placed close to each other along the median axis; a pair of large spherical spermathecae present, copulatory ducts lead to the anterio-lateral region of the spermathecae (Figs. 9–10).

Distribution. India; Tamil Nadu (Masinagudi, Pollachi, Chennai, Sivagiri Reserve Forest), Kerala (Bhoothathankettu Forest Reserve, Thrippunithura, Parambikulam Tiger Reserve), Karnataka (Bangalore); Sri Lanka (Hambantota) (Fig. 12).

Comments. The species is proposed to be commonly called as Lessert's rainbow spider. It is being named 'rainbow' as it sports a transverse bluish stripe on the clypeus, which shows various hues of light blue to purple depending on the angle of view. *S. hirsutus* Lessert 1927 from Africa, also has stripes of black hairs below the anterior eyes showing rainbow colors (Szüts & Scharff 2005).

Natural history. This species is commonly found inhabiting the jungle floor of the scrub regions in Madras Christian College campus (Tropical Dry Evergreen Forest), also observed in similar areas of the suburbs in and around Chennai and Chengelpet. The scrub consists of the *Albizia amara* plesioclimax community with several sub-communities and transitions (Meher-Homji 2007). It was also found thriving in the National Centre for Biological Sciences campus where the vegetation is predominantly deciduous.

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